

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016274**Date Inspected:** 05-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Xu Le Feng

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

Bay 10

This QA Inspector observed ZPMC welder Mr. Sun Guang Ping, stencil 050289 and welder stencil 057866 were alternating shifts and they were using shielded metal welding procedure WPS-B-T-343-TC-U5b to make groove weld SSD1-TL5-1B/F-12 between south tower lift 5 internal connection plates. This QA Inspector observed Li Peng Fei is monitoring this welding and this QA Inspector measured a welding current of approximately 160 amps.

This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Shu Ying stencil 037889 and welder Mr. Ge Hung Qi stencil 037780 were alternating shifts and they were using shielded metal welding procedure WPS-B-T-343-TC-U5b to make groove weld NSD1-TL5-3F/F-22B between north tower lift 5 internal connection plates. This QA Inspector observed Li Peng Fei is monitoring this welding and this QA Inspector measured a welding current of

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approximately 180 amps. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

Bay 11

This QA Inspector observed ZPMC welder Mr. Cui Guozhong, stencil 040656 was using shielded metal arc procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to perform weld repairs of shear link ND1-STSA4-6. This weld had been UT rejected and is being repaired in accordance with T-CWR672. This QA Inspector observed ZPMC appears to have used electric heaters to preheat the adjacent base material prior to welding and QC Inspector Mr. Mao Bin Bin had recorded a welding current of 248 amps. This QA Inspector observed the welding electrodes were stored in a portable rod oven which was connected to an electric power cable, Mr. Cui Guozhong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents

This QA Inspector observed ZPMC welder Mr. Liu Xie stencil 066236 and welder Mr. Wan Zhen stencil 70432 were alternating shifts and they were using shielded metal welding procedure WPS-B-T-3213-TC-P5 to make groove weld WSD1-TL5-4B/F-25 between west tower lift 5 internal connection plates. This QA Inspector observed Zhao Mao Mao and CWI Mr. Xu Le Feng were monitoring this welding and this QA Inspector measured a welding current of approximately 175 amps. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Wengou, stencil 066261 and Mr. Lia Ya stencil 67520 and were alternating shifts and they were using shielded metal welding procedure WPS-B-T-343-TC-U5b to make groove weld WSD1-TL5-4B/F-75 between west tower lift 5 internal connection plates. This QA Inspector observed Zhao Mao Mao and CWI Mr. Xu Le Feng were monitoring this welding and this QA Inspector measured a welding current of approximately 170 amps. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 066416 and stencil 068124 and were alternating shifts and they were using shielded metal welding procedure WPS-B-T-343-TC-U5b to make groove weld WSD1-TL5-4E/F-17 between west tower lift 5 internal connection plates. This QA Inspector observed Zhao Mao Mao and CWI Mr. Xu Le Feng were monitoring this welding and this QA Inspector measured a welding current of approximately 175 amps. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Tong Xin stencil 202100 was using shielded metal welding procedure WPS-B-T-3313-TC-P5 to make groove weld ESD1-TL5-2B/F-12B between east tower lift 5 internal connection plates. This QA Inspector observed Zhao Mao Mao and CWI Mr. Xu Le Feng were monitoring this welding and this QA Inspector measured a welding current of approximately 165 amps. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage

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container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Hu Jilian, stencil 040614 and welder Mr. Li Jin Quan, stencil 040667 were alternating shifts and they were using shielded metal welding procedure WPS-B-T-3213-TC-U5b to make groove weld ESD1-TL5-4F/F-9B between east tower lift 5 internal connection plates. This QA Inspector observed Zhao Mao Mao and CWI Mr. Xu Le Feng were monitoring this welding and this QA Inspector measured a welding current of approximately 180 amps. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Cui Guozhong, stencil 040656 was using shielded metal arc procedure WPS-345-SMAW-4G(4F)-Repair to make bikepath weld repair BK004A1-018-009 in accordance with a non numbered weld repair document. This QA inspector observed the UT rejection report listed the weld and the UT report did not contain any inspection report number or similar tracking number. This QA Inspector observed ZPMC QC Inspector Mr. Li Bin was monitoring this weld repair and Mr. Cui Guozhong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

Bay 19

This QA Inspector performed “target of opportunity” random visual and magnetic particle (MT) inspections of the following Suspender Bracket SB017-084 (West) welds in Bay 19:

SB017-084-21 ~24; SB017-084-27~30; SB017-084-33~36; SB017-084-39~42; SB017-084-69~72; SB017-084-45~48; SB017-084-51~54; SB017-084-73~76; SB017-084-57~60; SB017-084-63~66 and SB017-084-2, 3. For additional information on these inspections see this QA Inspector’s TL6028 Magnetic Particle Test Report.

This QA Inspector observed ZPMC welder Mr. Wang Qixiang, stencil 062812 was using shielded metal arc welding process to make Suspender Bracket tack welds SB017-080-010, -011, -013, -015, -017 and 018. This QA Inspector observed no Certified Welding Inspector (CWI) or other Quality Control personnel appeared to be in Bay 19. This QA Inspector contacted ZPMC QA representative Mr. Zhang Wei who stated that ZPMC production had informed ZPMC QC that no welding would be performed in Bay 19 and that no QC CWI or other inspection personnel had been assigned to monitor welding in Bay 19. This QA Inspector informed Mr. Zhang Wei that an incident report would issued to document ZPMC performing welding without a CWI being present. See the photographs below for additional information. Items observed on this date do not appear to fully comply with applicable contract documents.

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Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
